CLAIMS

1. A method of producing an essentially pure population of astrocytes. the method comprising

a) introducing a preparation of astrocytes to a culture vessel,

b) incubating the astrocytes from step a) under conditions enabling attachment of the astrocytes to the culture vessel, and

c) removing cells which have not attached to the culture vessel at a time of about 48 hours from the beginning of step a).

2. The method according to claim 1, wherein the astrocytes are human astrocytes.

3. The method according to claim 2, wherein the human astrocytes are human adult astrocytes.

4. The method according to claim 1, wherein said essentially pure population of astrocytes is essentially free of microglial cells.

5. The method according to claim 1, wherein the astrocytes are primary astrocytes obtained by surgical resection from a patient.

6. The method according to claim 1, wherein unattached cells are removed from the culture vessel by a change of culture media.

7. The method according to claim 1, further comprising a step d) of introducing a nucleic acid into the astrocytes.

8. The method according to claim 7, wherein the nucleic acid is introduced into the astrocytes with a viral vector.

9. The method according to claim 8, wherein the viral vector is selected from the group consisting of adenovirus, Herpes virus, AAV, retrovirus and vaccinia virus.

10. The method according to claim 9, wherein the viral vector is a replication defective adenoviral vector.

11. The method according to claim 7, wherein the nucleic acid is introduced into the astrocytes by calcium-phosphate precipitation, liposome-mediated transfection, cationic lipid transfection, or lipopolyamine-mediated transfection.

12. The method according to claim 7, wherein the nucleic acid encodes a neuroactive substance.

13. An essentially pure population of astrocytes produced by the method according to claim 1.

14. An essentially pure population of astrocytes.

15. The population of astrocytes according to claim 14, wherein the astrocytes are human astrocytes.

16. The population of astrocytes according to claim 15, wherein the human astrocytes are human adult astrocytes.

17. The population of astrocytes according to claim 16, wherein said population of astrocytes is essentially free of microglial cells.

18. The population of astrocytes according to claim 14, wherein the astrocytes are primary astrocytes obtained by surgical resection from a patient.

19. The population of astrocytes according to claim 14, further comprising an exogenous nucleic acid.

20. The population of astrocytes according to claim 19, wherein the nucleic acid is introduced into the astrocytes with a viral vector.

21. The population of astrocytes according to claim 20, wherein the viral vector is selected from the group consisting of adenovirus, Herpes virus, AAV, retrovirus and vaccinia virus.

22. The population of astrocytes according to claim 21, wherein the viral vector is a replication defective adenoviral vector.

23. The population of astrocytes according to claim 19, wherein the nucleic acid is introduced into the astrocytes by calcium-phosphate precipitation, liposome-mediated transfection, cationic lipid transfection, or lipopolyamine-mediated transfection.

24. The population of astrocytes according to claim 19, wherein the nucleic acid encodes a neuroactive substance.

25. The population of astrocytes according to claim 19, wherein said nucleic acid is DNA or RNA.

26. The population of astrocytes according to claim 25, wherein said nucleic acid is a DNA encoding a protein, polypeptide or peptide.

27. The population of astrocytes according to claim 26, wherein said protein, polypeptide or peptide is selected from the group consisting of growth factors, neurotrophic factors, and enzymes.

28. The population of astrocytes according to claim 25, wherein said nucleic acid is a DNA encoding an antisense-RNA or a ribozyme.

29. The population of astrocytes according to claim 24, wherein said nucleic acid is operably linked to a regulatory region.

30. The population of astrocytes according to claim 29, wherein the regulatory region comprises a regulatable promoter, an inducible promoter, a neural cell-specific promoter or a viral promoter.

31. An implant comprising a population of astrocytes according to claim 14.

32. A composition comprising an essentially pure population of astrocytes comprising an exogenous nucleic acid encoding a neuroactive substance.